

EARL 3-17

Further, the cooling unit includes a depressurized airtight casing for accommodating the cooling medium therein. By way of employing the airtight casing, the boiling point of the cooling medium can be reduced.

5 Preferably, the substrate processing apparatus further includes a temperature sensor disposed near the sealing member and a cooling unit controller for controlling the cooling unit based on a measurement result of the temperature sensor. By using the temperature sensor and the
10 cooling unit controller, the temperature in the vicinity of the sealing member can be maintained at a desired level.

 In accordance with the present invention, there is further provided a substrate processing apparatus including:
15 a processing chamber for accommodating a substrate therein; a mounting table having a mounting portion for mounting thereon the substrate and having a support for supporting the mounting table; a heating member disposed in the mounting portion, for heating the substrate; a sealing member disposed between the support and the processing
20 chamber; and a shielding member for shielding a heat radiation directed toward the sealing member from the mounting table.

 Preferably, the shielding member covers at least a part of a bottom surface of the mounting portion. Here, the
25 bottom surface of the mounting portion refers to a surface opposite to a surface of the mounting portion on which a

REPL 3-21
17-10

5. The apparatus of claim 4, wherein the processing gas supply system includes a plurality of processing gas supply units for supplying different processing gases and a processing gas supply unit controller for controlling each of the processing gas supply units such that the processing gases are supplied alternately.

6. A substrate processing apparatus comprising:
10 a processing chamber for accommodating a substrate therein;
a mounting table having a mounting portion for mounting thereon the substrate and a support for supporting the mounting portion;
15 a heating member disposed in the mounting portion, for heating the substrate;
a sealing member disposed between the support and the processing chamber; and
a shielding member for shielding a heat radiation
20 directed toward the sealing member from the mounting portion.

7. The apparatus of claim 6, wherein the shielding member covers at least a part of a bottom surface of the mounting portion.

25

8. The apparatus of claim 6, further comprising a